

ABSTRACT

A automation equipment control system comprises a general purpose computer with a general purpose operating system in electronic communication with a real-time computer subsystem. The general purpose computer includes a program execution module to selectively start and stop processing of a program of equipment instructions and to generate a plurality of move commands. The real-time computer subsystem includes a move command data buffer for storing the plurality of move commands, a move module linked to the data buffer for sequentially processing the moves and calculating a required position for a mechanical joint. The real-time computer subsystem also includes a dynamic control algorithm in software communication with the move module to repeatedly calculate a required actuator activation signal from a joint position feedback signal.